

# **Luqi**

Naval Postgraduate School  
Computer Science Department  
833 Dyer Road  
Monterey, CA 93943  
(831) 656-2735  
Luqi@cs.nps.navy.mil

## **EDUCATION:**

Ph.D. Computer Science, University of Minnesota, May 1986  
M.S. Computer Science, University of Minnesota, March 1984  
B.S. Mathematics, Jilin University, China, November 1975

## **EMPLOYMENT:**

Professor, Computer Science, Naval Postgraduate School, 1995-present  
Associate Professor, Computer Science, Naval Postgraduate School, 1990-1995  
Assistant Professor, Computer Science, Naval Postgraduate School, 1986-1990  
Adjunct Professor, Computer Science, University of Minnesota, 1986-1990  
Technical Staff, International Software Systems, Inc., 1984-1985  
Teaching, Research or Project Assistant, CS Dept & Computer Center, University of Minnesota, 1981-1986  
Research Assistant, Science Academy of China, Peking, China, 1975-1980

## **RESEARCH AREAS:**

Software Engineering, Computer-Aided Prototyping, Specification Languages, Design Methodology,  
Real-Time and Embedded Systems, Software Tools, Software and System Modeling,  
Software Evolution, Requirements Engineering, Real-time Systems, Software Architecture

## **HONORS:**

IEEE Fellow, 1999  
IEEE Computer Society Technical Achievement Award, 1997  
IEEE Computer Society Certificate of Appreciation, 1996  
IEEE Senior Member, 1996  
Integrated Software Engineering Program of the Month Award, 1996  
Naval Postgraduate School Research Award, 1995  
Naval Postgraduate School Research Award, 1992  
Menneken Faculty Award for Excellence in Scientific Research, 1991  
Naval Postgraduate School Research Award, 1990  
NSF Presidential Young Investigator Award, 1990  
IEEE Software Senior Referee Award, 1988  
NSF Engineering Initiation Award, 1987

University of Minnesota Graduate School Fellowship, 1985  
University of Minnesota Regents Scholarship, 1982, 1983  
CAAM Scholarship, Chinese American Association of Minnesota, 1981  
United Nations Fellowship, United Nations, 1980

## **REFEREED JOURNAL PUBLICATIONS:**

Luqi, M. Ketabchi -- "A Computer-Aided Prototyping System," "IEEE Software," March 1988, pp. 66-72.

Luqi, V. Berzins -- "Rapidly Prototyping Real-Time Systems," "IEEE Software," September 1988, pp. 25-36.

Luqi, V. Berzins, R. Yeh -- "A Prototyping Language for Real-Time Software," "IEEE Transactions on Software Engineering," October 1988, Vol. 14, No. 10, pp. 1409-1423.

Luqi -- "Knowledge-Based Support for Rapid Software Prototyping," "IEEE Expert," Winter 1988, pp. 9-18.

Luqi -- "Software Evolution Through Rapid Prototyping," "IEEE Computer," Vol. 22, No. 5, May 1989, pp. 13-25.

Luqi -- "Rapid Prototyping Languages and Expert Systems," "IEEE Expert," Summer 1989, pp. 2-5.

V. Berzins, Luqi -- "An Introduction to the Specification Language Spec," "IEEE Software," March 1990, pp. 74-84.

Luqi, P. Barnes, M. Zyda -- "Graphical Tool for Computer-Aided Prototyping," "Information and Software Technology," England, Vol. 36, No. 3, April 1990, pp. 199-206.

Luqi -- "Automated Prototyping and Data Translation," "Journal of Data and Knowledge Engineering," Vol. 5, July 1990, pp. 167-177.

Luqi -- "A Graph Model for Software Evolution," "IEEE Transactions on Software Engineering," Vol. 16, No. 8, August 1990, pp. 917-927.

B. Kraemer, Luqi -- "Toward Formal Models of Software Engineering Processes," "Journal of Systems and Software," Vol. 15, No. 1, April 1991, pp. 63-74.

Luqi -- "The Role of Prototyping Languages in CASE," "International Journal of Software Engineering and Knowledge Engineering," Vol. 1, No. 2, June 1991, pp. 131-149.

Luqi -- "Computer-Aided Software Prototyping," "IEEE Computer," September 1991, pp. 111-112 (Invited paper).

R. Steigerwald, Luqi, J. McDowell -- "A CASE Tool for Reusable Software Component Storage and Retrieval in Rapid Prototyping," "Information and Software Technology," England, Vol. 38, No. 9, Nov. 1991, pp. 698-706.

Luqi -- "Computer-Aided Prototyping for a Command-and-Control System Using CAPS," "IEEE Software," Vol. 9, No. 1, Jan. 1992, pp. 56-67.

Luqi -- "Women in AI," edited by D. Strok, "IEEE Expert," August 1992, pp. 7-22 (Invited paper).

Luqi, W. Royce -- "Status Report: Computer-Aided Prototyping," "IEEE Software," Vol. 9, No. 6, Nov. 1992, pp. 77-81.

Luqi -- "Real-Time Constraints in a Rapid Prototyping Language," "Journal of Computer Languages," Vol. 18, No. 2, Spring 1993, pp. 77-103.

V. Berzins, Luqi, A. Yehudai -- "Using Transformations in Specification-Based Prototyping," "IEEE Transactions on Software Engineering," Vol. 19, No. 5, May 1993, pp. 436-452.

B. Kraemer, Luqi, V. Berzins -- "Compositional Semantics of a Real-Time Prototyping Language," "IEEE Transactions on Software Engineering," Vol. 19, No. 5, May 1993, pp. 453-477.

A. Combelles, Luqi -- "Advancing Europe's Fortunes," "IEEE Software," Nov. 1993, pp. 14-20.

D. Dampier, Luqi, V. Berzins -- "Automated Merging of Software Prototypes," "Journal of Systems Integration," Vol. 4, No. 1, Feb. 1994, pp. 33-49.

Luqi, D. Cooke -- "How to Combine Nonmonotonic Logic and Rapid Prototyping to Help Maintain Software," "International Journal of Software Engineering and Knowledge Engineering," Vol. 5, No. 1, March 1995, pp. 89-118.

B. Ramesh, Luqi -- "An Intelligent Assistant for Requirements Validation for Embedded Systems," "Journal of Systems Integration," Vol. 5, No. 2, 1995, pp. 157-177.

Luqi -- "System Engineering and Computer-Aided Prototyping," "Journal of Systems Integration," special issue on Computer Aided Prototyping, (Vol. 6, No. 1, 1996), pp. 15-17. Guest Editor's Introduction, pp. 15-17.

Luqi, M. Shing -- "Real-Time Scheduling for Software Prototyping," "Journal of Systems Integration," special issue on Computer-Aided Prototyping, (Vol. 6, No. 1, 1996), pp. 41-72.

J. Goguen, D. Nguyen, J. Meseguer, Luqi, D. Zhang, V. Berzins -- "Software Component Search," "Journal of Systems Integration," special issue on Computer Aided Prototyping (Vol. 6, No. 2, 1996), pp. 93-134.

V. Berzins, Luqi -- "Software Evolution in Prototyping," Chinese Journal of Advanced Software Research, Vol. 3, No. 3, (1996), pp. 260-276.

Luqi, J. Goguen -- "Formal Methods: Promises and Problems," "IEEE Software," Vol. 14, No. 1, Jan. 1997, pp. 73-85.

D. Cooke, Luqi -- "Logic Programming and Software Maintenance," "Annals of Mathematics and Artificial Intelligence 21," No. 2-4, (1997), pp. 221-229.

Luqi, C. Chang, H. Zhu -- "Specifications in Software Prototyping," "Journal of Systems and Software," Vol. 42, No. 2, Aug. 1998, pp. 150-177.

D. Zhang, Luqi -- "Approximate Declarative Semantics for Rule Base Anomalies," "Knowledge-Based Systems," to appear.

V. Berzins, Luqi, Y. Lee -- "Systematic Development of Hard Real-Time Software," "Journal of Systems Integration," to appear.

Luqi, J. Goguen -- "Suggestions for Progress in Software Development and Evolution," "IEEE Software," revised.

Luqi, V. Berzins -- "Software Architecture," "IEEE Software," submitted.

Luqi, M. Shing, G. Hughes -- "Teaching Software Engineering via a Prototyping Research Tool," "CACM," submitted.

V. Berzins, M. Shing, Luqi -- "Architectural Re-engineering of Janus Using Object Modeling and Rapid Prototyping," forwarded by RSP'99 for a special issue of Design Automation for Embedded Systems, 1999. Still has to pass a final round of reviewer.

#### **CONFERENCE PUBLICATIONS AND PRESENTATIONS:**

Luqi, M. Ketabchi, -- "A Computer Aided Prototyping System," "Proceedings of ACM First International Workshop on Computer-Aided Software Engineering," Cambridge, MA, May 27-29, 1987, Vol. 2, pp. 722-731. (An initial version of this paper appeared as NPS TR 52-87-011.)

Luqi -- "Execution of Real-Time Prototypes," "Proceedings of ACM First International Workshop on Computer-Aided Software Engineering," Cambridge, MA, May 27-29, 1987, Vol. 2, pp. 870-884. (An initial version of this paper appeared as NPS TR 52-87-012.)

Luqi, -- "Normalized Specifications for Identifying Reusable Software," "Proceedings ACM-IEEE Computer Society 1987 Fall Joint Computer Conference," Dallas, TX, October 25-29, 1987, pp. 46-49. (An initial version of this paper appeared as NPS TR 52-87-007.)

Luqi -- "Specification Languages in Computer Aided Software Engineering," "Proceedings of IEEE Conference on Systems Design and Networks," Santa Clara, CA, April 19-21, 1988, pp. 27-34. (An initial version of this paper appeared as NPS TR 52-88-005.)

D. Janson, Luqi -- "A Static Scheduler for the Computer Aided Prototyping System," "Proceedings of the 3rd Annual COMPASS Conference," Gaithersburg, MD. June 27 - July 1, 1988, pp. 92-97. (An initial version of this paper appeared as NPS TR 52-88-020.)

V. Berzins, Luqi -- "Semantics of a Real-Time Language," "Proceedings of IEEE 9th Real-Time Symposium," Huntsville, Alabama, Dec. 6-8, 1988, pp. 106-110. (An initial version of this paper appeared as NPS TR 52-88-033.)

Luqi, V. Berzins -- "Execution of a High Level Real-Time Language," "Proceedings of IEEE 9th Real-Time Symposium," Huntsville, Alabama, Dec. 6-8, 1988, pp. 69-76. (An initial version of this paper appeared as NPS TR 52-88-035.)

Luqi -- "Handling Timing Constraints in Rapid Prototyping," "Proceedings of the 22nd Annual Hawaii International Conference on System Sciences," Kailua-Kona, Hawaii, Jan. 3-6, 1989, pp. 417-424. (An initial version of this paper appeared as NPS TR 52-88-036.)

G. Lundy, Luqi -- "Specification of a Token Ring Protocol Using Systems of Communicating Machines," "Proceedings of IEEE Conference on Systems Design and Networks," Santa Clara, CA, May 1989, pp. 9-16. (An initial version of this paper appeared as NPS TR 52-89-024.)

V. Berzins, Y. Lee, Luqi -- "Generating Displays for Specifications Using Attribute Grammars," "Proceedings of IEEE COMPSAC 89," Orlando, FL, September 20-22, 1989, pp. 596-602.

Luqi, Y. Lee -- "Interactive Control of Prototyping Process," "Proceedings of IEEE COMPSAC 89," Orlando, FL, September 20-22, 1989, pp. 447-454. (An initial version of this paper appeared as NPS TR 52-89-025.)

Luqi, P. Barnes, M. Zyda -- "Graphical Support for Reducing Information Overload in Rapid Prototyping," "Proceedings of 23rd Annual Hawaii International Conference on System Sciences," Kailua-Kona, Hawaii, Jan. 2-5, 1990, pp. 514-522. (An initial version of this paper appeared as NPS TR 52-89-028.)

B. Kraemer, Luqi -- "Petri Net-Based Models of Software Engineering Processes," "Proceedings of 23rd Annual Hawaii International Conference on System Sciences," Kailua-Kona, Hawaii, Jan. 2-5, 1990, pp. 104-112. (An initial version of this paper appeared as NPS TR 52-90-011.)

Luqi -- "Rapid Software Prototyping," "Proceedings of 23rd Annual Hawaii International Conference on System Sciences," Kailua-Kona, Hawaii, Jan. 2-5, 1990, pp. 198-201.

B. Kraemer, Luqi -- "Specification-Based Software Construction," "Proceedings of 23rd Annual Hawaii International Conference on System Sciences," Kailua-Kona, Hawaii, Jan. 2-5, 1990, pp. 150-152.

T. Bihari, R. McGhee, Luqi, & Y. Lee -- "Applying a Computer Aided Prototyping System to the Software of an Autonomous Underwater Vehicle," Position paper at Workshop on Software Tools for Distributed Intelligent Control, July 17-19, 1990, Pacifica, California.

Luqi, R. Steigerwald, G. Hughes, F. Naveda, V. Berzins -- "CAPS as a Requirements Engineering Tool," "Proceedings of Requirements Engineering and Analysis Workshop," Software Engineering Institute, Carnegie Mellon University, March 12-14, 1991, Pittsburgh, Pennsylvania, pp. 1-8.

R. Steigerwald, Luqi, J. McDowell -- "A CASE Tool for Reusable Software Component Storage and Retrieval in Rapid Prototyping," "Proceedings of Third International Conference on Software Engineering and Knowledge Engineering," June 27-29, 1991, Skokie, IL, pp. 34-39.

Luqi, V. Berzins, U. Kodres, Y. Lee -- "Prototyping a Low Cost Tactical Display System," "Proceedings of ONT/NSWC Systems Evaluation and Assessment Technology Workshop," Aug. 1991, Silver Springs, Maryland, pp. 23-30.

Luqi, G. Hughes, J. Schweiger -- "Ada Software Prototypes of C3I Systems," "Proceedings of 1991 Systems Design Synthesis Technology Workshop," September 10-13, 1991, Silver Springs, Maryland, pp. 67-73.

Y. Lee, Luqi, R. McGhee -- "Automating the Construction of Real-Time Software for an Autonomous Underwater Vehicle through Prototyping," "Proceedings of the Seventh International Symposium on Unmanned Untethered Submersible Technology," September 23-25, 1991, Durham, New Hampshire, pp. 564-574.

Luqi, R. Steigerwald, G. Hughes, V. Berzins -- "CAPS as a Requirements Engineering Tool," "Proceedings of Tri-Ada Conference," Oct. 21-25, 1991, San Jose, CA, pp. 75-83.

Luqi, J. McDowell -- "Software Reuse in Specification-Based Prototyping," "Proceedings of the 4th Annual Software Reuse Workshop," Herndon, VA, Nov. 18-22, 1991, pp. 1-7.

R. Steigerwald, Luqi, V. Berzins -- "A Tool for Reusable Software Component Retrieval via Normalized Specifications," "Proceedings of the Hawaii International Conference on System Sciences," Koloa, Hawaii, Jan. 7-10, 1992, pp. 18-26.

Luqi, R. Steigerwald -- "Rapid Software Prototyping," "Proceedings of the Hawaii International Conference on System Sciences," Koloa, Hawaii, Jan. 7-10, 1992, pp. 470-479.

V. Berzins, Luqi, Y. Lee -- "Applications and Meaning of Inheritance in Software Specifications," "Proceedings of the Hawaii International Conference on System Sciences," Koloa, Hawaii, Jan. 7-10, 1992, pp. 64-73.

Luqi, G. Hughes, J. Schweiger, C. Jones -- "Ada Software Prototyping of C3I Systems," "Proceedings of the 1992 Symposium on Command and Control Research," Monterey, California, June 10-11, 1992, pp. 266-278.

V. Berzins, D. Cooke, Luqi, & M. Tanik -- "Workshop on Software Automation," "Proceedings of the IEEE/ACM Second International Conference on Systems Integration," Morristown, NJ, June 15-18, 1992, pp. 720-722.

Luqi -- "Computer Aided System Prototyping," "Proceedings of Third International Workshop on Rapid System Prototyping," Research Triangle Park, NC, June 23-25, 1992, pp. 50-57.

Luqi, Y. Lee -- "Towards Automated Retrieval of Reusable Software Components," "Proceedings of the AAAI Workshop on Artificial Intelligence and Automated Program Understanding," San Jose, CA, July 13, 1992, pp. 85-88.

Y. Lee, Luqi -- "Controlling an Autonomous Underwater Vehicle Using an Expert System," "Proceedings of the Second International Conference on Automation, Robotics and Computer Vision," Singapore, September 15-18, 1992, Vol. 3, pp. AI.3.6.1-AI.3.6.6.

Luqi, D. Cooke -- "The Management of Uncertainty in Software Development," "Proceedings of COMPSAC 92," Chicago, IL, September 21-25, 1992, pp. 381-386.

D. Dampier, Luqi -- "Automated Software Maintenance Using Comprehension and Specification," "Proceedings of International Workshop on Program Comprehension," IEEE/ACM Software Maintenance Conference, Orlando, Fl, Nov. 9-12, 1992, pp. 24-26.

B. Ramesh, Luqi -- "Process Knowledge Based Rapid Prototyping for Requirements Engineering," "Proceedings of IEEE/ACM Symposium on Requirements Engineering," San Diego, CA, Jan. 1993, pp. 248-255.

Luqi -- "How to Use Prototyping for Requirements Engineering," "Proceedings of IEEE/ACM Symposium on Requirements Engineering," San Diego, CA, Jan. 1993, p. 229.

Luqi, M. Shing, P. Barnes, G. Hughes -- "Prototyping Hard Real-Time Ada Systems in a Classroom Environment," "Proceedings of ACM 7th Annual Ada Software Engineering Education and Training Symposium," Monterey, CA, Jan. 12-14, 1993, pp. 103-117.

Luqi -- "Software Reuse without Reading Code," "Proceedings of 2nd International Workshop on Software Reusability," Lucca, Italy, March 24-26, 1993.

S. Badr, Luqi -- "A Version and Configuration Model for Software Evolution," "Proceedings of the Fifth International Conference on Software Engineering and Knowledge Engineering," June 16-18, 1993, San Francisco, pp. 225-227.

D. Dampier, Luqi, V. Berzins -- "Automated Merging of Software Prototypes," "Proceedings of the Fifth International Conference on Software Engineering and Knowledge Engineering," June 16-18, 1993, San Francisco, pp. 604-611.

Luqi, M. Shing, J. Brockett -- "Real-Time Scheduling in System Prototyping," "Proceedings Fourth International Workshop on Rapid System Prototyping," Research Triangle Park, NC, June 28-30, 1993, pp. 150-163.

Luqi, J. Goguen -- "Some Suggestions for Using Formal Methods in Software Development," "Proceedings AFOSR/ARO/ONR Workshop on Increasing the Practical Impact of Formal Methods for Computer-Aided Software Development," Monterey, CA, Oct. 1993, pp. 7-11.

D. Cooke, Luqi -- "Formal Support for Software Maintenance," "Proceedings COMPSAC 93," Phoenix, AZ, Nov. 3-5, 1993.

Luqi -- "Computer-Aided Prototyping - Status and Experiments," "Proceedings of International Symposium and Workshop on New Models for Software Architecture," Kanazawa, Japan, Nov. 8, 1993, pp. 23-30.

Luqi, M. Shing -- "Teaching Hard Real-Time Software Development via Prototyping," "Proceedings of the International Workshop on Software Engineering Education," International Conference on Software Engineering, Sorrento, Italy, May 21, 1994, pp. 199-211.

Luqi, J. Goguen -- "Suggestions for Progress in Software Analysis, Synthesis and Certification," "Proceedings of the 6th International Conference on Software Engineering and Knowledge Engineering," Jurmala, Latvia, June 20-23, 1994, pp. 501-507.

S. Badr, Luqi -- "Automation Support for Concurrent Software Engineering," "Proceedings of the 6th International Conference on Software Engineering and Knowledge Engineering," Jurmala, Latvia, June 20-23, 1994, pp. 46-53.

Luqi -- "Achieving Integration Via Prototyping," "Proceedings of the 3rd International Conference on Systems Integration," Sao Paulo, Brazil, Aug. 15-19, 1994.

Luqi -- "Monterey Workshop 94: Software Evolution-Increasing the Practical Impact of Formal Methods in Computer Aided Software Development," "Proceedings of Monterey Workshop 94," Monterey, CA, Sept. 7-9, 1994, pp. 1-9.

Luqi, J. Goguen, V. Berzins -- "Formal Support for Software Evolution," "Proceedings of Monterey Workshop 94," Monterey, CA, Sept. 7-9, 1994, pp. 10-21.

Luqi, H. Yang, X. Zhang -- "Constructing an Automated Testing Oracle: An Effort to Produce Reliable Software," "Proceedings of COMPSAC 94," Taipei, Taiwan, Nov. 7-9, 1994, pp. 228-233.

D. Dampier, V. Berzins, Luqi, M. Shing, D. Dolk, C. Rasmussen -- "A Slicing Method for Semantics-Based Change-Merging of Software Prototypes," "Proceedings of Computers in Engineering Symposium," Houston, Texas, Jan. 29 - Feb. 1, 1995, PD-Vol.67, Software Systems in Engineering, ASME 1995, Edited by D. Cooke et al., pp. 87-92.

Luqi, J. Goguen, V. Berzins, D. Dampier -- "Engineering Support for Software Evolution," "Proceedings of Computers in Engineering Symposium," Houston, Texas, Jan. 29-Feb. 1, 1995, PD-Vol.67, Software Systems in Engineering, ASME 1995, Edited by D. Cooke et. al., pp. 161-171.

D. Dampier, M. Kindl, R. Byrnes, Luqi -- "Rapid Prototyping of Army Embedded Software Systems," "Proceedings of Seventh Annual Software Technology Conference," Salt Lake City, Utah, April 9-14, 1995.

J. Goguen, Luqi -- "Formal Methods and Social Context in Software Development," "Proceedings of the Sixth International Joint Conference on the Theory and Practice of Software Development," TAPSOFT95, Aarhus, Denmark, May 22-26, 1995, pp. 62-81.

M. Shing, Luqi -- "Functional Specification and Prototyping for a Generic C3I Workstation," "Proceedings of 1995 Symposium on Command and Control Research and Technology," Washington, DC, June 19-23, 1995, pp. 119-131.

V. Berzins, Luqi, M. Shing -- "Computer Aided Prototyping System," "Proceedings of 1995 International Conference on Software Engineering and Data Engineering," Washington, DC, June 22-24, 1995, p. 499.

Luqi, V. Berzins -- "Logic, Software Engineering and Prototyping," "Proceedings of the Logic and Software Engineering Workshop," Software Institute, National Academy of Science, Beijing, China, Aug. 15, 1995.

V. Berzins, Luqi -- "Software Evolution in Prototyping," "Proceedings of the Logic and Software Engineering Workshop," Software Institute, National Academy of Science, Beijing, China, Aug. 15, 1995.



D. Zhang, Luqi -- "Formal Analysis of Inconsistency and Redundancy in Knowledge Bases," "Proceedings of IJCAI'95 Workshop on Validation & Verification of Knowledge Based Systems," Montreal, Quebec, Canada, Aug. 19, 1995, pp. 110-116.

Luqi, V. Berzins -- "Software Architecture in Computer-Aided Prototyping," "Proceedings of 1995 Monterey Workshop on Increasing the Practical Impact of Formal Methods in Computer Aided Software Development: Software Architecture," Monterey, CA, Sep. 12-14, 1995, pp. 44-57.

Luqi -- "Specification Based Software Architecture," "Proceedings of 1995 Monterey Workshop on Increasing the Practical Impact of Formal Methods in Computer Aided Software Development: Software Architecture," Monterey, CA, Sep. 12-14, 1995, pp. 1-4.

M. Shing, V. Berzins, Luqi -- "Computer Aided Prototyping System (CAPS)," "Proceedings of the Software Technology Conference," Salt Lake City, Utah, April 21-26, 1996, pp. 462-463. Proceedings were distributed on CD ROM only, \stc96cd\vendor\exhibit.pdf

Luqi -- "Specifications in Software Prototyping," "Proceedings of the 8th International Conference on Software Engineering and Knowledge Engineering," Lake Tahoe, CA, June 10-12, 1996, pp. 189-197.

Luqi, V. Berzins, D. Nguyen, D. Zhang -- "Multi-Level Filtering for Software Component Retrieval," "Proceedings of the 1996 International Conference on Circuits and System Sciences," Shanghai, China, June 20-25, 1996, pp. 284-287.

D. Rusin, Luqi, M. Scanlon -- "SIDS Wireless Acoustic Monitor (SWAM)," "Proceedings of the 21st Int. Conf. on Lung Sounds," The International Lung Sounds Association, Chester, England, Sep 4-6, 1996.

V. Berzins, Luqi, M. Shing -- "Scheduling Real-Time Software Prototypes," "Proceedings of the 2nd International Symposium on Operations Research and its Applications," Guilin, China, December 11-13, 1996, pp. 614-623.

V. Berzins, O. Ibrahim, Luqi -- "A Requirements Evolution Model for Computer Aided Prototyping," "Proceedings of the 9th International Conference on Software Engineering and Knowledge Engineering," Madrid, Spain, June 17-20, 1997, pp. 38-47.

T. Leonard, V. Berzins, Luqi, M. Holden -- "Gathering Requirements from Remote Users," "Proceedings 9th International Conference on Tools with Artificial Intelligence," Newport Beach, CA, November 3-8, 1997, pp. 462-471.

Luqi, V. Berzins -- "Engineering Automation for Computer Based Systems," "Proceedings 1997 Workshop on Virtual Universities," Newport Beach, CA, November 4, 1997.

Luqi -- "Formal Models and Prototyping," "Proceedings 1997 ARO Workshop on Requirements Targeting Software and System Engineering - Towards a Scientific Basis," Munich, Germany, October 12-14, 1997.

M. Dabose, Luqi -- "Autonomous Agents Design for Digital Network Maximization in Joint C4I System," "Proceedings of Modeling and Simulation of Microsystems, Semiconductors," Sensors and Actuators conference, Santa Clara, CA, April 6-8, 1998.

Luqi -- "Software Process Improvement - Lessons Learned," "Proceedings of Asia Pacific Forum on Software Engineering," International Conference on Software Engineering, Kyoto, Japan, April 20, 1998.

D. Zhang, Luqi -- "The Pacific Rim Process Engineering Research," "Proceedings of Asia Pacific Forum on Software Engineering," International Conference on Software Engineering, Kyoto, Japan, April 21, 1998.

M. Shing, V. Berzins, Luqi, M. Holden, C. Eagle -- "Master of Science in Software Engineering via Distance Learning," Proceeding Ada Software Engineering and Education Symposium, July 27-30 1998, Monterey CA.

Luqi -- "Engineering Automation for Computer Based Systems," "Proceedings of ARO/NSF/ONR Workshop," Carmel, CA, Oct. 26-29, 1998.

M. Harn, V. Berzins, Luqi -- "Software Evolution via Reusable Architecture," to appear in "Proceeding International Conference and Workshop on the Engineering of Computer Based Systems (ECBS)," March 7-12, 1999, Nashville, TN, pp. 11-17.

Luqi and G. Jiang -- "Toward Automated Retrieval for a Software Component Repository," "Proceedings of International Conference and Workshop on the Engineering of Computer Based Systems (ECBS)," Nashville, USA, March 7-12, 1999, pp. 99-105.

G. Jiang and Luqi -- "Object Modeling to Re-engineer Legacy Systems," to appear in "Proceedings of The Eleventh International Conference on Software Engineering And Knowledge Engineering," Kaiserslautern, Germany, June 17-19, 1999.

M. Harn, V. Berzins, Luqi -- "A Dependency Computing Model for Software Evolution," to appear in "Proceedings of The Eleventh International Conference on Software Engineering And Knowledge Engineering," Kaiserslautern, Germany, June 17-19, 1999.

Luqi and V. Berzins -- "Reliability in Software Requirement Engineering," to appear in "Proceedings of The Fourth World Conference on Integrated Design & Process Technology," Kusadasi, Turkey, June 27-July 2, 1999.

M. Harn, V. Berzins, Luqi, W. Kemple -- "Evolution of C4I Systems," "Proceeding 1999 Command and Control Research and Technology Symposium," Newport, RI, June 29 - July 1, 1999.

M. Shing, Luqi, V. Berzins, M. Saluto, and J. Williams -- "Architectural Re-engineering of Janus using Object Modeling and Rapid Prototyping," "Proceeding 10th IEEE Int. Workshop on Rapid System Prototyping," Clearwater, FL, p. 216-221, June 16-18, 1999.

M. Harn, V. Berzins, Luqi -- "Computer-Aided Software Evolution Based on a Formal Model," "Proceeding 13th Int. Conf. on Systems Engineering," Las Vegas, Nevada, August 9-12, 1999.

M. Harn, V. Berzins, Luqi -- "A Formal Model for Software Evolution," "Proceeding 3rd Int. Conf. on Computational Intelligence and Multimedia Applications," New Delhi, India, September 23-26, 1999.

M. Harn, V. Berzins, Luqi -- "Software Evolution Process via a Relational Hypergraph Model," "Proceeding IEEE/IEEJ/JSAI Int. Conf. on Intelligent Transportation Systems," Tokyo, Japan, October 5-8, 1999.

Luqi -- "Engineering Automation for Computer Based Systems", Proceedings of The 1998 ARO/ONR/NSF/DARPA Monterey Workshop on Engineering Automation for Computer Based Systems", Monterey, CA, April 1999

Luqi, M. Broy -- "Software Engineering to our Planning Horizon", Proceedings of The 1998 ARO/ONR/NSF/DARPA Monterey Workshop on Engineering Automation for Computer Based Systems", Monterey, CA, April 1999

Luqi, V. Berzins, M. Shing, M. Saluto, J. Williams, J. Guo, B. Shultes -- "The Use of Computer Aided Prototyping for Re-engineering Legacy Software", "Proceedings of The 1998 ARO/ONR/NSF/DARPA Monterey Workshop on Engineering Automation for Computer Based Systems", Monterey, CA, April 1999

Michael Dabose, Luqi -- "Digital Network Integration And Control Across Heterogeneous Communications Boundaries," "Proceeding IEEE The 1st Int. Workshop on Real-Time Mission-Critical Systems Grand Challenge Problems," Arizona, USA, November 30, 1999.

Nogueira, Luqi, and Berzins. Risk Assessment in Software Requirement Engineering, 5th World Conference on Integrated Design & Process Technology, Dallas, June 4-8.

Nogueira, Jones, and Luqi. Surfing the Edge of Chaos: Applications to Software Engineering, 2000 Command and Control Research and Technology Symposium, Monterey, June 26-28.

Nogueira, Luqi, and Berzins. A Formal Risk Assessment Model for Software Evolution. 12th International Conference on Software Engineering and Knowledge Engineering, Chicago, July 6-8.

Nogueira, Luqi, and Bhattacharya. A Risk Assessment Model for Software Prototyping Projects, 11th IEEE International Workshop on Rapid System Prototyping, Paris, France, June 21-23.

Nader Nada, Luqi, David Rine, and Khaled Jaber, Product Line Stakeholder Viewpoint and Validation Models, The 22nd International Conference on Software Engineering (ICSE2000), The Workshop on Software Product Lines: Economics, Architectures, and Implications, Limerick, Ireland, June 4-11, 2000.

Nader Nada, Luqi, David Rine, and Ernesto Damiani, A Knowledge-Based System for Software Reuse Technology Practices, The 22nd International Conference on Software Engineering (ICSE2000), The Third International Workshop on Intelligent Software Engineering WISE3, Limerick, Ireland, June 4-11, 2000.

Nader Nada, and Luqi, Automated Prototyping ToolKit, The 22nd International Conference on Software Engineering (ICSE2000), The Second International Symposium on Constructing Software Engineering Tools (COSET2000) , Limerick, Ireland, June 4-11, 2000.

Juan Carlos Nogueira, Luqi, Valdis Berzins, and Nader Nada, A formal Risk Assessment Model for Software Evolution, The 22nd International Conference on Software Engineering (ICSE200), 2nd

International Workshop on Economics-Driven Software Engineering Research (EDSER-2), Limerick, Ireland, June 4-11, 2000.

Nader Nada, Luqi, David Rine, and Ernesto Damiani, A Knowledge-Based Adaptive Distance Learning System for Software Reuse Technology, Twelfth International Conference on Software Engineering and Knowledge Engineering SEKE2000, Chicago, July 6-8, 2000.

Nader Nada, Luqi, David Rine, and Khaled Jaber, Using Abstract Adapters for Distributed and Reusable Components, Distributed Networked Computing for a Secure Defense, Washington D.C. April 24-25.

Nader Nada, and Luqi, Software Evolution Approach for the Development of Command and Control Systems, 2000 Command and Control Research and Technology Symposium, NPS, Monterey, CA, June 26-28.

Jun Ge, Valdis Berzins, and Luqi, Computer Aided Prototyping in a Distributed Environment, International Congress on Intelligent Systems and Applications(ISA'2000), Symposium on Interactive and Collaborative Computing, Australia, December 12-15, 2000, accepted.

Jiang Guo, Luqi, "Reuse and Re-engineering of Legacy Systems", The Fifth World Conference on Integrated Design & Process Technology (2000 IDPT Conference), Dallas, Texas, USA, June 4-8, 2000.

Jiang Guo, Luqi, "A Survey of Software Reuse Repositories", Proceedings of the IEEE International Conference and Workshop on the Engineering of Computer Based Systems (IEEE ECBS'2000), Edinburgh, Scotland, UK, April 6-7, 2000.

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V. Berzins, M. Shing, Luqi, M. Saluto and J. Williams, "Object-oriented modular architecture for ground combat simulation", Proceedings of the 2000 Command and Control Research and Technology Symposium, Naval Postgraduate School, Monterey, CA, June 26-28, 2000.

Luqi, V. Berzins, M. Shing, N. Nada and C. Eagle, "Computer Aided Prototyping System (CAPS) for Heterogeneous Systems Development and Integration", Proceedings of the 2000 Command and Control Research and Technology Symposium, Naval Postgraduate School, Monterey, CA, June 26-28, 2000.

DaBose Michael and Luqi, "Digital Network Integration and Control Across Heterogeneous Communications Boundaries", Software Technology Conference, El Segundo, Ca. September 23 1999, Real Time Systems IEEE Workshop, Scottsdale, Az. December 1999

DaBose Michael and Luqi, "Heterogeneous Information Exchange Methodology", Processing Systems Technology Network Conference, El Segundo, Ca. September 29 1999.

V. Berzins, M. Shing, Luqi, M. Saluto, J Williams, "Architectural Re-engineering of Janus using Object Modeling and Rapid Prototyping", Medical Device Software Safety Workshop" Silver Spring, MD November 20, 2000

## **PRESENTATIONS AND INVITED TALKS:**

Luqi

"Rapid Prototyping of Large Ada Systems," Research Center, Hewlett-Packard, Inc., Palo Alto, CA, September 1986.

Luqi

"CASE Tools for Rapid Prototyping," presented at AACP 1987 Winter Technical Conference, Arlington, TX, November 1987.

Luqi

"Modeling, Specification, and Design of Real-Time Systems," Invited talk at Computer Science Department, New Jersey Institute of Technology, Dec. 1988.

Luqi

Invited Panelist in the Minitrack on Hard Real-Time Systems, "Rapid Prototyping in Real-Time Systems," 22nd Annual Hawaii International Conference on System Sciences, Kailua-Kona, Hawaii, Jan. 1989.

Luqi, V. Berzins

"Graphical Tools for a Computer Aided Prototyping System," presented at the 22nd Annual Hawaii International Conference on System Sciences, Kailua-Kona, Hawaii, Jan. 1989.

Luqi

"Computer-Aided Prototyping of Embedded Software Systems," Invited talk at University of Minnesota, Minneapolis, March 1989.

V. Berzins, R. Kopas, Luqi, A. Yehudai

"Using Transformations for Specification-Based Prototyping," presented to IFIP Working Group 2.4, Warsaw, September 1989.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at Boston University, Boston, March 1990.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at OACIS-Oregon State Software Industrial Consortium, Beaverton, OR, March 1990.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at Computer Science Department, Oregon State University, Corvallis, OR, March 1990.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at Research Seminar, Department of Electrical Engineering And Computer Science, University of California, Berkeley, May 7, 1990.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at HP by NASA Ames Real-Time Interest Group and IEEE Santa Clara Real-Time Group, June 18, 1990.

Y. Lee, Luqi, R. McGhee

"Automating the Construction of Real-Time Intelligent Software for an Autonomous Underwater Vehicle through Knowledge Based Prototyping," presented at Workshop in 7th IEEE Conference on AI Applications, Miami Beach, FL, Feb. 24-28, 1991.

Luqi, F. Naveda

"A Requirements Engineering Tool," Presentation at Requirements Engineering and Analysis Workshop, Software Engineering Institute, Carnegie Mellon University, March 12-14, 1991, Pittsburgh, Pennsylvania.

Luqi

"Rapid Prototyping of Real-Time Systems," Invited talk at University of Colorado, Colorado Springs, April, 1991.

Luqi

Seminar on Real-Time Software Development Methods for NRL, September 1991, Washington, DC.

Luqi

"Computers and Software," Presentation at USMC General Officer Symposium, Monterey, CA, September, 23-26, 1991.

Luqi

"PSDL Specification of a Real-Time Dining Philosophers Problem," Presented at the International Workshop on Software Specification and Design, Como, Italy, October 1991.

Luqi

"Systematic Development of Real-Time Systems," Presented at Naval Research Lab, Nov. 1991.

Luqi

"Computer Aided Prototyping of Real-Time Systems," Presented at the AFOSR/ARO/ONR Research Review on Formal Methods in Software Engineering: Concurrent and Real-Time Systems, Monterey, California, May 20-22, 1992.

Luqi

"Computer Aided Prototyping for Software Development," Presented at the Software Automation Workshop in the IEEE/ACM Second International Conference on Systems Integration, Morristown, NJ, June 15, 1992.

Luqi

"Computer Aided Prototyping for Real-Time Systems," Presented at the IBM Research Center, Hawthorne, NY, June 16, 1992.

Luqi

"Process Knowledge Based Rapid Prototyping for Requirements Engineering," Panel at IEEE/ACM Symposium on Requirements Engineering, San Diego, CA, Jan. 1993.

Luqi

"Prototyping for Real-Time Systems," Distinguished lecture at IEEE local chapter, Orlando, FL, Mar. 18, 1993.

Luqi

"Computer Aided Prototyping for Real-Time Systems," presented at GMD, Bonn, Germany, Apr. 23, 1993.

Luqi

"Computer-Aided Prototyping - Status and Experiments," presented at Toshiba, Tokyo, Japan, Nov. 10, 1993.

Luqi

"Combining Abstractions and Experiments in Software Prototyping," presented at Oxford University, Oxford, UK, Nov. 23, 1993.

Luqi

"Computer Aided Prototyping as a Requirements Tool," Invited Keynote Speaker at the 3rd International Conference on Systems Integration, Aug. 18, 1994, St. Paulo, Brazil.

Luqi

"Software Architectures in Specification-Based Prototyping," presented at the ARPA Software Composition Workshop, Santa Fe, NM, Nov. 16, 1994.

Luqi

"Software Engineering Education at NPS," Joint Logistics Command Software Education Workshop, Crystal City, Washington, DC, Feb. 22, 1995.

Luqi

"Rapid Simulation as a Tool in Safety Analysis," Software Safety Symposium, Naval Information System Management Center, Crystal City, Washington, DC, Mar. 24, 1995.

Luqi

"Logic, Software Engineering and Prototyping," Logic and Software Engineering Workshop, Software Institute, National Academy of Science, Beijing, China, Aug. 15, 1995.

Luqi

"Software Trends, Perspectives and Investment Strategies," National Science Foundation of China, Beijing, China, Aug. 17, 1995.

Luqi

"Research and Development in Computer Aided Prototyping," Jiaotong University, Shanghai, China, Aug. 24, 1995.

Luqi,

"Computer-Aided Software Prototyping," Fudan University, Shanghai, China, Aug. 25, 1995.

Luqi

"Software Engineering and Prototyping," Nanjing University, Nanjing, Jiangsu, China, Aug. 29, 1995.

Luqi

"Multi-Level Filtering for Software Component Retrieval," C.V. Ramamoorthy Workshop on Advances in Computer Science and Engineering, University of California at Berkeley, May 4, 1996.

Luqi

"A Machine-Based Software Engineering Paradigm," Invited talk, Army Research Program Review, Research Triangle, NC, May 16-17, 1996.

Luqi

"Software Architecture for Systematic System Development," Jiaotong University, Shanghai, China, Oct. 4, 1996.

Luqi

"Models, Languages, and Tools for Software Automation," International Technological University, San Jose, CA, Nov. 6, 1996.

Luqi, V. Berzins

"Computer-Aided Prototyping of Real-Time Systems," University of Science and Technology, Hong Kong, Dec. 16, 1996.

Luqi

"Computer-Aided Software Prototyping," Stanford University, Stanford, CA, May 2, 1997.

Luqi

"Computer-Aided Software Prototyping," University of Genova, Genova, Italy, June 25, 1997.

Luqi

"Computer-Aided Software Prototyping," Czech Technical University, Prague, Czech Republic, Oct 25, 1997.

Luqi

"Formal Models and Prototyping," ARO workshop on Requirements Targeting Software and Systems Engineering, Bernreid, Germany, Oct 13, 1997.

Luqi

"Engineering Automation for Computer Based Systems," Workshop on Virtual Universities, Newport Beach, CA, Nov. 4, 1997.

Luqi

"Software Automation for Control Systems," Workshop on Software Design Automation for Reactive Systems, Research Triangle, North Carolina, July 15-16, 1998.

Luqi

"Engineering Automation for Computer-Based Systems," ARO/NSF/DARPA Workshop on Engineering Automation of Computer Based Systems," Carmel, CA, Oct. 26-29, 1998.



## **BOOKS AND MISCELLANEOUS PUBLICATIONS:**

Luqi

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"User Manual and Descriptions of Numerical Methods," Vol. 2:

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Luqi, R. Yeh

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D. Dampier, Luqi, and V. Berzins

"Automated Merging of Software Prototypes," "Software Slicing and Merging," IEEE Computer Society Press Tutorial, May 1995, pp. 213-229.

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Luqi, M. Ketabchi

“A Computer Aided Prototyping System,” Technical Report NPS 52-87-011, Computer Science Department, Naval Postgraduate School, 1987.

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“The Semantics of Inheritance in Spec,” Technical Report NPS 52-87-032, Computer Science Department, Naval Postgraduate School, 1987.

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D. Janson, Luqi

“A Static Scheduler for the Computer Aided Prototyping System: An Implementation Guide,” Technical Report NPS 52-88-006, Computer Science Department, Naval Postgraduate School, 1988.

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“Generating a Language Translator Based on an Attribute Grammar Tool,” Technical Report NPS 52-88-007, Computer Science Department, Naval Postgraduate School, 1988.

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C. Moffitt II, Luqi

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Luqi, S. Eaton

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“A Static Scheduler Implementation Guide for a CAPS Tool,” Technical Report NPS 52-88-020, Computer Science Department, Naval Postgraduate School, 1988.

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“Automated Prototyping Data and Knowledge Translation,” Technical Report NPS 52-88-034, Computer Science Department, Naval Postgraduate School, 1988.

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“Handling Timing Constraints in Rapid Prototyping,” Technical Report NPS 52-88-036, Computer Science Department, Naval Postgraduate School, 1988.

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D. Galik, Luqi

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L. Marlowe, Luqi

“A Scheduler for Critical Time Constraints,” Technical Report NPS 52-89-006, Computer Science Department, Naval Postgraduate School, 1989.

S. Porter, V. Berzins, Luqi

“Design of a Syntax Directed Editor for PSDL,” Technical Report NPS 52-89-007, Computer Science Department, Naval Postgraduate School, 1989.

R. Thorstenson, Luqi, M. Zyda

“A Graphical Editor for the Computer Aided Prototyping System,” Technical Report NPS 52-89-008, Computer Science Department, Naval Postgraduate School, 1989.

C. Altizer, Luqi

“Implementation of a Language Translator for the Computer Aided Prototyping System,” Technical Report NPS 52-89-009, Computer Science Department, Naval Postgraduate School, 1989.

M. Wood, Luqi, J. Yurchak

“Run-time Support for Rapid Prototyping,” Technical Report NPS 52-89-010, Computer Science Department, Naval Postgraduate School, 1989.

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“Rapid Prototyping Languages in Computer-Aided Software Engineering,” Technical Report NPS 52-89-021, Computer Science Department, Naval Postgraduate School, 1989.

B. Douglas, Luqi

“A Design Database for Rapid Prototyping,” Technical Report NPS 52-89-022, Computer Science Department, Naval Postgraduate School, 1989.

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“Computer Languages for Rapid Prototyping,” Technical Report NPS 52-89-023, Computer Science Department, Naval Postgraduate School, 1989.

B. Lundy, Luqi

“Specification of a Token Ring Protocol Using Systems of Communicating Machines,” Technical Report NPS 52-89-024, Computer Science Department, Naval Postgraduate School, 1989.

Luqi, Y. Lee

“Interactive Control of Prototyping Process,” Technical Report NPS 52-89-025, Computer Science Department, Naval Postgraduate School, 1989.

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“Issues in Language Support for Rapid Prototyping,” Technical Report NPS 52-89-026, Computer Science Department, Naval Postgraduate School, 1989.

Luqi, P. Barnes

“Graphical Support for Reducing Information Overload in Rapid Prototyping,” Technical Report NPS 52-89-028, Computer Science Department, Naval Postgraduate School, 1989.

Luqi

“Rapid Prototyping Languages for Expert Systems,” Technical Report NPS 52-89-032, Computer Science Department, Naval Postgraduate School, 1989.

H. Raum, Luqi, J. Yurchak

“Design and Implementation of an Expert User Interface for the Computer Aided Prototyping System,” Technical Report NPS 52-89-033, Computer Science Department, Naval Postgraduate School, 1989.

Luqi, B. Kraemer, V. Berzins

“Software Analysis and Testing through Prototyping,” Technical Report NPS 52-89-044, Computer Science Department, Naval Postgraduate School, 1989.

Luqi, V. Berzins, B. Kraemer, L. White

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Luqi

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I. Mostov, Luqi

“Maintenance Problems in Military Software Systems,” Technical Report NPS 52-90-004, Computer Science Department, Naval Postgraduate School, 1989.

W. Yin, Luqi, M. Tanik

“Rapid Prototyping for Software Evolution,” Technical Report NPS 52-90-009, Computer Science Department, Naval Postgraduate School, 1990.

Luqi, T. Davis

“A Software Prototype of the Message Processor in Navy C3I Station,” Technical Report NPS 52-90-010, Computer Science Department, Naval Postgraduate School, 1989.

B. Kraemer, Luqi

“Petri Net-Based Models of Software Engineering Processes,” Technical Report NPS 52-90-011, Computer Science Department, Naval Postgraduate School, 1989.

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I. Mostov, Luqi, K. Hefner

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B. Kraemer, Luqi, V. Berzins

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L. Latour, Luqi, et al.

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D. Dampier, Luqi

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Luqi, M. Shing, V. Berzins, and L. Chmura

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Luqi, M. Shing, P. Barnes, and G. Hughes

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Luqi

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Badr S. and Luqi

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S. Badr and Luqi

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Luqi

"System Engineering and Evolution Decision Support" NPS-SW-00-001, September 2000

Luqi

"Engineering Automation for Reliable Software" NPS-SW-00-002, September 2000

## **PROFESSIONAL MEMBERSHIPS AND SERVICES:**

Editor, Special Issue on Computer Aided Prototyping Systems, Journal of Systems Integration, Vol. 6, No. 1-2, March 1996.

Guest Editor, IEEE Software Special Issue: NATO Country Joint Software Initiative, ESPRIT Project II & III, Nov. 1993

Associate Editor, Design and Process World, 1996-present

Associate Editor, IEEE Software, 1992-1996

Associate Editor, Journal of Systems Integration, 1990-present

Associate Editor, IEEE Expert, 1989-1993

Local Chair, 10th International Conference on Software Engineering and Knowledge Engineering (SEKE98), June 18-20 1998, San Francisco.

Chair, Computer Software Area, Fifth World Conference on Integrated Design & Process Technology, Dallas, TX, June 4-8, 2000.

Co-Chair, Engineering Automation for Computer Based Systems, ARO/NSF/DARPA Workshop, Carmel, CA, Oct. 26-29, 1998.

Advisory Committee, Quality Week, International Conference, San Francisco, April, 1998

Panel Chair, Software Process Improvement - Lessons Learned of Asia Pacific Forum on Software Engineering, International Conference on Software Engineering, Kyoto, Japan, April 20, 1998.

Panel Chair, Process Engineering Research in Asia-Pacific of Asia Pacific Forum on Software Engineering, International Conference on Software Engineering, Kyoto, Japan, April 21, 1998.

Program Committee, 10th International Conference on Software Engineering and Knowledge Engineering (SEKE98), June 18-20 1998, San Francisco.

Member, Program Committee, Workshop on Requirements Targeting Software and System Engineering - Towards a Scientific Basis, Munich, October 12-14, 1997.

Member, Program Committee, 9th International Conference on Software Engineering and Knowledge Engineering (SEKE97), June 18-20 1997, Madrid, Spain.

Chair, Program Committee, CAPSTAG Workshop, Monterey, CA, March 1997.

Member, Program Committee of the Eighth International Conference on Software Engineering and Knowledge Engineering (SEKE96), June 10-12, 1996, Lake Tahoe, Nevada.

Member, Program Committee, IEEE/ACM COMPSAC96, Seoul, Korea, Aug. 7-11, 1996.

Member, Program Committee of the Second International Conference on Requirements Engineering, Colorado Springs, Co, April 15-18, 1996.

Co-Chair, IEEE International Conference on Data Engineering, New Orleans, LA, Feb. 11-14, 1996.

General Chair, Monterey Workshop 95, Increasing the Practical Impact of Formal Methods in Computer Aided Software Development: Software Architecture, Sep. 12-14, 1995.

Local Chair, Software Acquisition Workshop, Monterey, CA, May 1-5, 1995.

Member, Program Committee of the Second International Conference on Applications of Databases, Santa Clara, CA, Dec. 13-15, 1995.

Member, Program Committee of the IEEE/ACM Symposium on Real-Time Technology and Applications, Chicago, IL, May 1995.

Member, Program Control Panel, Best Practices Initiative, Office of the Under Secretary of Defense, Acquisition and Technology, Oct. 1994-May 1995.

General Chair, ARO/NSF/ARPA/ONR/AFOSR Monterey Workshop 94, Increasing the Practical Impact of Formal Methods in Computer Aided Software Development: Software Evolution, Sep. 7-9, 1994.

Member, Program Committee of the IEEE/ACM COMPSAC94 Conference, Taipei, Taiwan, Nov. 7-11, 1994.

Chair, Software Topics Session at the IEEE/ACM COMPSAC94, Taipei, Taiwan, Nov. 7-11, 1994.  
Panelist, Advanced Database Research Panel at the IEEE/ACM COMPSAC94, Taipei, Taiwan, Nov. 7-11, 1994.

Chair, Software Tech. and Tools Session at the 3rd International Conference on Systems Integration, Aug. 18, 1994, Sao. Paulo, Brazil.

Keynote Speaker at the 3rd International Conference on Systems Integration, Aug. 18, 1994, St. Paulo, Brazil, Computer Aided Prototyping as a Requirements Tool.

Member, Program Committee of The Third IEEE/ACM International Conference on Systems Integration, Aug. 1994.

Member, Program Committee of the 6th International Conference on Software Engineering and Knowledge Engineering, Jurmala, Latvia, June 20-23, 1994.

Member, Program Committee of the 11th IEEE Workshop on Real-Time Operating Systems and Software, Seattle, May 18-19, 1994.

Member, Program Committee of the IEEE International Conference on Requirements Engineering, Colorado Springs, CO, April 18-22, 1994.

Member, Program Committee of the Third Maghrebian Conference on Software Engineering and Artificial Intelligence, Morocco, April 11-14, 1994.

Chair, Program Committee of the AFOSR/ARO/ONR Workshop on Increasing the Practical Impact of Formal Methods for Computer-Aided Software Development, Oct. 13-15, 1993.

Member, Program Committee of the 4th International Workshop on Rapid System Prototyping, Research Triangle Park, North Carolina, June 28-30, 1993.

Panelist, On Developing A General Theory of Software Engineering, COMPSAC 93, November 1-5, 1993, Mesa, Arizona.

Panelist, I Never Knew My Requirements were Object Oriented until I talked to my Analyst, Requirements Engineering 93 Conference, San Diego, CA, January 4-6, 1993.

Panelist, Reengineering Executive Strategy/Master Plan, Software Reengineering Workshop, DoD Joint Logistics Commanders Joint Policy Coordinating Group on Computer Resources Management, Santa Barbara, CA, Sept 21-25, 1992.

Chair, Software Prototyping Panel, 1992 IEEE Software Industrial Advisory Board Meeting, Chicago, June, 1992.

Coordinator, Research Directions in Software Engineering Workshop, Morristown, NJ, June 15, 1992.

Co-Chair, the Formal Methods in Software Engineering Workshop sponsored by ARO/ONR/AFOSR, May 18-20, 1992.

Chair, Software Environments Session in the Second IEEE/ACM International Conference on Systems Integration, June 15-20, 1992.

Coordinator, Software Prototyping Session in the Second IEEE/ACM International Conference on Systems Integration, June 15-20, 1992.

Member, Program Committee of the Second IEEE/ACM International Conference on Systems Integration, June 15-20, 1992.

Coordinator, Software Prototyping Track in Hawaii Conference on System Science, Jan. 1992.  
Co-Chairman, Prototyping Session of Systems Evaluation Technology Workshop, White Oaks, MD, Aug. 1991

Panelist for National Science Foundation Research Initiation Awards, May, 1991

Member of Search Committee for Editor in Chief of IEEE Expert, 1991

Ph. D. Dissertation Evaluation for School of Mathematical Sciences, Tel Aviv University, Israel, 1991

Member, Program Committee of IEEE Systems Design and Networks Conference, 1990

Member, Program Committee of The First IEEE/ACM International Conference on Systems Integration, Morristown, NJ, 1990

Member, Program Committee of IEEE Systems Design and Networks Conference, 1989

Coordinator, Specification Track in Hawaii Conference on System Sciences, Jan. 1990

Coordinator, Prototyping Track in Hawaii Conference on System Sciences, Jan. 1990

Technical Consultant for Oxford Computing Lab, Oxford, UK

Technical Consultant for Lockheed Research Center

Technical Consultant for Ilgen Simulation Technologies, Inc.

Technical Consultant for Xinotech Research, Inc.

Technical Consultant for International Software Systems Inc.

Technical Consultant for Honeywell Research Center

Member of NPS Dean Appointment Committee, 1992

Member of Computer Equipment Committee & Ada Language Committee, Curriculum

Committee Member of IEEE, IEEE Computer Society and ACM

Referee for National Science Foundation, Army Research Office, IEEE/ACM Hawaii Conference, IEEE Real-Time Symposium, IEEE Computer IEEE Expert, IEEE Software, IEEE Transactions on Software Engineering, etc

Member, Program Committee of The 21st International Conference on Distributed Computing Systems (ICDCS-21), April 16-19 2001, Phoenix Arizona

### **THESIS STUDENTS AND THESIS TOPICS SUPERVISED:**

C. Moffitt, II,  
“A Language Translator for a Computer Aided Rapid Prototyping System,” (completed March, 1988).

S. Eaton,  
“A Dynamic Scheduler for a Computer Aided Prototyping System,” (completed March, 1988).

J. O'Hern,  
“A Conceptual Level Design for a Static Scheduler for Hard Real-Time Systems,” (completed March, 1988). Graduated with distinction.

D. Janson,  
“A Static Scheduler for the Computer Aided Prototyping System: An Implementation Guide,” (completed March, 1988).

L. Marlowe,  
“A Static Scheduler for Critical Timing Constraints,” (completed December, 1988).

C. Altizer,  
“Implementation of a Language Translator for the Computer Aided Prototyping System,” (completed December, 1988). Received Grace Murray Hopper Award.

M. Wood,  
“Run-time Support for Rapid Prototyping,” (completed December, 1988).

H. Raum,  
“Design and Implementation of an Expert User Interface for the Computer Aided Prototyping System,” (completed December, 1988). Graduated with distinction.

R. Thorstenson,  
“A Graphical Editor for the Computer Aided Prototyping System,” (completed December, 1988).

D. Galik,  
“A Conceptual Design of a Software Base Management System for the Computer Aided Prototyping System,” (completed December, 1988).

H. Guentenburg,  
“Case Study on Rapid Prototyping & Automated Software Generation: An Inertial Navigation System,” (completed June, 1989).

L. White,  
“The Development of a Rapid Prototyping Environment,” (completed January, 1990). Received Grace Murray Hopper Award.

J. Cervantes,  
“An Optimal Static Scheduling Algorithm for Hard Real-Time Systems Specified in a Prototyping Language,” (completed January, 1990).

H. Fountain,  
“Rapid Prototyping: A Survey and Evaluation of Methodologies and Models,” (completed March, 1990).

J. Sun,  
“Developing Portable User Interfaces for Ada Command Control Software,” (completed June, 1990).

H. Hsu,  
“Multiprocessor Scheduling for Hard Real-Time Software,” (completed June, 1990).

J. Seveney, G. Steinberg,  
“Requirements Analysis for a Low Cost Combat Direction System,” (completed June, 1990).

I. Mostov,  
“A Model of Software Maintenance for Large Scale Military Systems,” (completed June, 1990).  
Received Highest Academic Achievement Award.

J. Huskins,  
“Issues in Expanding the Software Base Management System Supporting the Computer Aided Prototyping System,” (completed June, 1990).

F. Palazzo,  
“Integration of the Execution Support System for the Computer Aided Prototyping System (CAPS),” (completed September, 1990).

S. Anderson,  
“Functional Specification for a Generic C3I Workstation,” (completed September, 1990). Graduated with distinction.

G. Manley,

"The Classification and Evaluation of Computer Aided Software Engineering Tools," (completed September, 1990).

C. Kesoglu, V. Coskun,

"A Software Prototype for a Command, Control, Communications and Intelligence (C3I) Workstation," (completed Dec. 1990).

M. Cummings,

"The Development of User Interface Tools for the Computer Aided Prototyping System," (completed Dec. 1990). Received Grace Murray Hopper Award and DoD Award.

J. Levine,

"An Efficient Heuristic Scheduler for Hard Real-Time Systems," (completed September, 1991).

G. Lewis, A. Dwyer,

"The Development of a Design Database for the Computer Aided Prototyping System," (completed September, 1991).

J. McDowell,

"A Reusable Component Retrieval System for Prototyping," (completed September, 1991). Graduated with Distinction.

R. Steigerwald,

"Reusable Software Component Retrieval via Normalized Algebraic Specifications," (completed December, 1991). Ph. D. Dissertation.

M. Oloughlin,

"Version and Variation Control of a Design Database for Computer-Aided Prototyping System," (completed June, 1992).

G. Hammar,

"FDDI Implementation and Performance Analysis," (completed September, 1992).

M. Ellis,

"Computer Aided Prototyping for Acquisition of C3I Systems," (completed June, 1993).

S. Dolgoff,

"Automated Interface for Retrieving Software Reusable Components," (completed Sept. 1993). Received Grace Murray Hopper Award.

J. Brockett, Ph. D. Dissertation,

"Formal Models for Computer-Aided Software Development," (complete by Dec. 1994).

C. Eagle,

"Tools for Storage and Retrieval of Ada Software Components in a Software Base," (completed March 1995). Received Grace Murray Hopper Award.

D. Nguyen, Ph. D. Dissertation,

“An Architectural Model for Software Component Search,” (completed Dec. 1995).

R. Hong,

“User Interface and Database Design,” (completed Mar. 1996).

T. Nguyen,

“Populating the Software Database,” (completed Mar. 1996).

S. Grosenheider,

“Enhancements for the CAPS Prototyping System Description Language Syntax-Directed Editor,” (completed Mar. 1996).

D. Irwin,

“ReEngineering of the Computer-Aided Prototyping System for Portability,” (completed Sep. 1996).

D. Angrisani & G. Whitbeck,

“Software System Requirements for the Army Tactical Missile System,” (completed Sep. 1996).

R. Cooke,

“Technology Transfer of Computer Aided Prototyping System,” (completed Sep. 1996).

A. Bell,

“Documentation for CAPS User Interface and Graphic Editor,” (completed Mar. 1997).

E. Yetkin, S. Sotero,

“Re-engineering Portability of Computer Aided Prototyping System,” (completed Mar. 1997).

D. Rusin,

“Application of the Rapid Computer Aided Prototyping System (CAPS) in the Development of a Sudden Infant Death Syndrome (SIDS) Monitor,” (completed June. 1997).

T. Leonard,

“Front Loaded Accurate Requirements Engineering (FLARE); A Requirements Analysis Concept for the 21st Century,” (completed June. 1997).

F. Bailey and C. Robbins,

“Real-Time, Remotely Controlled, Unmanned, Surface Combatant (RTRCUSC) Using the Internet,” (completed Sep. 1997).

M. Dabose,

“Autonomous Agents for Digital Network Maximization,” (completed Sep. 1997).

J. Evans,

“Project Scheduling Tool,” (completed Sep. 1997).

J. Herman,

“Improving Syntactic Matching for Multi-Level Filtering,” (completed Sep. 1997).

W. Keesling,



“Decomposition Recovery Extension to the Computer-Aided Prototyping System (CAPS) Change-Merge Tool,” (completed Sep. 1997).

G. Garingo,  
“Java Based Data Connectivity,” (completed Sep. 1997).

B. Plutchak,  
“The Design of an Interface Editor for the Computer-Aided Prototyping System,” (completed Sep. 1997).

W. Ray,  
“Automatic Layout Techniques for the Graphical Editor in the Computer Aided Prototyping System,” (completed Sep. 1997).

C. Mock,  
“A Syntax Directed Editor for the Computer Aided Prototyping System,” (completed Sept. 1997).

M. Howell,  
“Analysis of a 3-Tier Distributed Architecture for the Sector Anti Air Warfare Center,” (completed Sep. 1997).

M. Coleman,  
“CHANNEL CAT: A Tactical Link Analysis Tool,” (completed Sep. 1997).

J. Kominiak,  
“Software System Requirements for the Fuel Automation Subsystem of the Integrated Combat Service Support System (ICS3) Using the Computer Aided Prototyping System (CAPS),” (completed Mar. 1998).

T. Rambidis,  
“Security Issues for the Software Evolution Model,” (completed Mar. 1998).

G. Meckstroth,  
“A GUI Interface for Reusable Components Storage and Retrieval in the CAPS Software Base,” (completed June 1998).

F. Steinbach,  
“CVX Control Information Technology Evolutionary Model,” (completed March 1999).

M. Bok,  
“Addressing the United States Navy Need for Software Engineering Education,” (completed Sept 1999).

T. Auguston  
“Naval Architecture Environment: Facilitating JV2010,” (completed Dec. 1999).

E. Matsuo,  
“Risk Assessment in Incremental Software Development,” (completed Dec. 1999).

J. Nogueira,

"Risk Assessment Technology for Software Development," PhD Dissertation, (complete by Sept. 2000).

P. Young,  
"Software Systems Integration Technology for US Navy Future Aircraft Carriers," (complete by Dec. 2002).

## **READER OF THESES:**

J. Weigand,  
"Design and Implementation of a Pretty Printer for the Functional Specification Language Spec" (completed June 1988).

S. Porter,  
"Generation of a Syntax Directed Editor for Prototyping System Description Language," (completed December, 1988).

L. Wyrick,  
"Evaluation of Technology Transfer: Conventional DBMSs to Object-Oriented DBMSs," (completed March, 1989).

R. Kopas,  
"The Design and Implementation of a Specification Language Type Checker," (completed June, 1989).

D. Beebe,  
"The Design and Implementation of a Syntax Directed Editor for the Specification Language Spec," (completed June, 1989).

M. Kilic,  
"Static Schedulers for Embedded Real-Time Systems," (completed December, 1989).

D. Ross,  
"Object Oriented Database Manager for a Low Cost Combat Direction System," (completed December, 1989).

D. Dampier,  
"A Model for Merging Different Versions of a PSDL Program," (completed June, 1990).

J. Depasquale,  
"Design and Implementation of Module Driver and Output Analyzer Generation," (completed June, 1990).

R. Adams,  
"Assessment of the Feasibility of SDI," (completed June, 1990).

G. Slyman,  
"System Engineering Analysis and Acquisition Strategy to Obtain Battle Group Organic Reprogramming," (completed September, 1990).

S. Tyszberowicz,  
“OBSERV - A Prototyping Language and Environment” external examiner, Ph.D. Dissertation, Tel-Aviv University, (completed October, 1990).

S. Tyszberowicz,  
“OBSERV - Object-oriented Based Specification, Execution, and Rapid Validation system,” external examiner for Ph.D. thesis, Tel Aviv University, May 1991.

E. de Paula,  
“A Tactical Database for the Low Cost Combat Direction System,” (completed December, 1990).

J. Waite,  
“An Ada Object Oriented Missile Flight Simulation,” (completed September 1991).

M. Stockwell,  
“A Graphical User Interface for the Low Cost Combat Direction System,” (completed September 1991).

W. Bolick, R. Irwin,  
“The Integration System for the Low Cost Combat Direction System,” (completed September 1991).

S. Bayramoglu,  
“The Design and Implementation of an Expander for the Hierarchical Real-time constraints of CAPS,” (completed September 1991).

J. Schweiger,  
“Detecting Potential Synchronization Constraint Deadlocks from Formal System Specifications,” (completed March, 1992).

R. Dixon,  
“The Design and Implementation of a User Interface for the Computer Aided Prototyping System,” (completed September, 1992).

J. Sealander,  
“Building Reusable Software Components for Automated Retrieval,” (completed September, 1992).

T. Poulis,  
“Using an Object-Oriented Database Management System to Enhance the Reusability of Class Definitions,” (completed September, 1992).

D. Ozdemir,  
“The Design and Implementation of a Reusable Component Library and a Retrieval/Integration System,” (completed December, 1992).

R. Byrnes, Ph.D. Dissertation,  
“An Experimental Investigation of Alternative Software Architectures and Languages for Autonomous Vehicle Control Systems,” (completed March, 1993).

S. Badr, Ph.D. Dissertation,  
“A Model and Algorithms for a Software Evolution Control System,” (completed December, 1993).

D. Dampier, Ph.D. Dissertation,  
“A Formal Method for Semantics-Based Change-Merging of Software Prototypes,” (completed September, 1994).

M. Cordeiro, Ph.D. Dissertation,  
“Distributed Hard Real-Time Scheduling for a Software Prototyping Environment,” (completed March, 1995).

J. Drimousis,  
“Analysis for the Purpose of Developing Course Material for Instructing Graduate Students in Object Oriented Programming With Ada 95,” (completed Mar. 1995).

A. Stern, Ph. D. Dissertation Examiner, University of Oxford, UK,  
“Tracing Software Evolution through Requirements Spaces,” (completed May 1995).

O. Ibrahim, Ph.D. Dissertation,  
“A Model and Decision Support Mechanism for Software Requirements Engineering,” (completed Sep., 1996).

F. Pinheiro, Ph. D. Dissertation Examiner, University of Oxford, UK,  
“Evolution of a Project Metric,” (complete by Dec., 1996).

D. Lange,  
“Hypermedia Analysis and Navigation of Domains,” (complete by Sep. 1997).

C. Kropp,  
“Integrated Evolution Control System,” (complete by March 1998).

N. Ruiz,  
“Smartship Project Modeling,” (complete by June 1998).

B. Montague, Ph.D. Dissertation,  
“The Soft-Instruction Software Architecture,” University of California at Santa Cruz, (complete by Dec. 1998).

M. Harn, Ph.D. Dissertation,  
“Computer Aided Software Evolution based on Inferred Dependencies,” (complete by Dec., 1999).